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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,747	10/06/2003	Yoichi Nishino	243627US6	6596

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
SMITH, JEFFREY S	

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
12/31/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	**Application No.** 10/678,747	**Applicant(s)** NISHINO, YOICHI	
	Examiner Jeffrey S. Smith	**Art Unit** 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-40* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *29-40* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 29-30, 33-36 and 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Geradts et al., *Methods for Identification of Images Acquired with Digital Cameras* ("Geradts").

For claim 29 Geradts discloses a light receiving unit configured to receive respective light on respective elements (digital camera); a correlation detection unit configured to detect the variations in strength of different light receiving elements (see the right image of figure 4 on page 506, pixel defects are visible if there is an image taken of a dark object. See also figure 5, pixel defects are visible on the CCD), and an identifying unit configured to identify whether said first image data was generated using said image generating apparatus based on said correlation detected by said correlation detecting section (see left image of figure 4, pixel defects in a real image match pixel defects of a dark object. See also equation 4 on page 510, if the pixel defects found in a comparison of a reference image and an actual image exceed a threshold, the actual image was taken by the camera).

Claim 35 is also rejected for these reasons.

For claim 30 the digital camera of Geradts has a light receiving unit that includes a plurality of light receiving elements, each of the light receiving elements include a silicon substrate, a light blocking layer provided at an aperture, a condensing lens, and an insulating layer, and the condensing lens is disposed to reach the silicon substrate through the light blocking layer from a position at an opposite side from the silicon substrate relative to the light blocking layer.

Claim 36 is also rejected for these reasons.

For claim 33 Geradts discloses a reference image generating unit configured to generate a plurality of reference image data (see page 507 "we counted these pixel defects by comparing five images acquired by the same camera") and to average said plurality of reference image data to generate second image data (see abstract, "errors can be visualized by averaging the images multiple times." See also figure 2 on page 507, ten blank images are averaged to show pixel defects) and said correlation detection unit is configured to detect a correlation between said first image data and said second image data. (see discussion of Figure 2 on page 507, it "was possible to determine the pixel defects in these cameras").

Claim 39 is also rejected for these reasons.

For claim 34 Geradts discloses a reference image generating unit configured to generate a plurality of second image data (see figure 4) by making light strike said elements in a plurality of states of different lens apertures (the lens aperture of the image on the left is different than that of the image on the right, and the images are taken when light goes through a lens onto the light receiving CCDs) and said correlation detection unit is configured to detect a correlation between said first image data and said second image data (see page

508, correlation is detected using the several images that are made with different lens apertures, such as those shown in figure 4).

Claim 40 is also rejected for these reasons.

Claim Rejections - 35 USC § 103

Claims 31 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geradts in view of Chen et al., *Symmetric Phase-Only Matched Filtering of Fourier-Mellin Transforms* ("Chen").

For claim 31, Chen discloses a correlation detection unit that includes (see section IV Fourier-Mellin Invariant Matching beginning on page 1158) that has a first fast Fourier transform circuit configured to apply a Fourier transform to reference image data to generate first frequency component data (one of ordinary skill in the art at the time of invention is able to perform this function disclosed in section IV on page 1158 with electronic circuitry); a first whitening circuit configured to divide first complex number data forming the first frequency component data by an absolute value of each complex number data to generate first complex number data (step 2); a second fast Fourier transform circuit configured to apply a Fourier transform to the first image data to generate second frequency component data (step 3) a second whitening circuit configured to divide second complex number data forming the second frequency component data by an absolute value of each complex number data to generate second complex number data (step 4); a complex conjugation circuit configured to substitute each complex number data forming the second complex number data with a complex conjugate complex number data to generate third complex number data (step 5); a multiplication circuit configured to multiply the first complex number data and the third complex number data to generate fourth complex number data (equation 19); and an inverse fast Fourier transform circuit configured to transform the fourth complex number data to generate correlation data, wherein the correlation data indicates all values for which a correlation is obtained by cyclically shifting the relative positions of the first image data and the reference image in two dimensions (step 6).

It would have been obvious to one of ordinary skill in this art at the time of the invention to modify the camera identification device of Geradts to include the correlation means of Chen for the advantages of obtaining a high discriminating power and an excellent robustness in the presence of noise as taught by Chen at col. 1 on page 1157.

Claim 37 is also rejected for these reasons.

Claims 32 and 38 are rejected under 35 U.S.C. 103 as being unpatentable over Geradts as applied to claim 29 above, and further in view of U.S. Patent No. 5,764,770 issued to Schipper et al. ("Schipper").

For claim 32, Schipper discloses the correlation detection section is configured to cut out first subset image data from reference image data based on a first cutout position, to cut out second subset image data from the first image data based on a second cutout position shifted with respect to the first cutout position, and to detect a correlation between the first subset image data and the second subset image data (see figures 9A-9G and col. 18 lines 10-45, the pixel array is decomposed into a plurality of smaller sub-regions, and the correlation of each sub-region of the image with the corresponding sub-region in the reference image is detected. That is, the correlation detecting means cuts out third image data based on a first cutout position, and cuts out fourth image data based on a second cutout position. See also figures 10-14). It would have been obvious to one of ordinary skill in the art at the time of invention to include the cut out image data of Schipper for the benefit of reducing a number of pixels to a manageable size as taught by Schipper in col. 10 lines 15-17.

Claim 38 is also rejected for these reasons.

Response to Arguments

Applicant's arguments filed October 31 have been fully considered but they are not persuasive. Applicant argues that detecting variations in strength of different light receiving elements as recited in claim 29 is patentable over detecting variations in strength of defective and functioning light receiving elements as disclosed by the prior art. The Office sees both as being identical.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS
December 19, 2007

JINGGE WU
SUPERVISORY PATENT EXAMINER